

Internal coolant loops used for International Space Station thermal control must be periodically monitored for system health, including pH, biocide levels and any indication of ammonia. The presence of ammonia, possible via a microleak in the interface between the internal and external thermal control systems, could be a danger to the crew. The Internal Thermal Control System (ITCS) Sampling Kit uses test strips as a colorimetric indicator of pH and concentrations of biocide and free ammonia. This paper describes the challenges in designing an ammonia colorimetric indicator in a variable pH environment, as well as lessons learned, ultimately resulting in a robust test strip to indicate a hazardous ammonia leak.